

IN THE CLAIMS:

Please amend claims 1 - 20. Please add claim 21.

1. (currently amended) A simulation method for simulating topography with a geometrical change of a material comprising:

generating plural boundary points on a string formed on [[the]] a surface of [[a]] the material;

obtaining a first length of a line segment between the boundary points;

calculating [[a]] displacement of the boundary points corresponding to the geometrical change according to a process model;

moving the boundary points by the displacement;

obtaining a second length of the line segment between the boundary points after the boundary points [[is]] are moved; and

making reference to the first and second lengths to add or eliminate the boundary points.

2. (currently amended) [[A]] The method as in claim 1, wherein

said moving the boundary point by the displacement comprises:

obtaining an accumulated displacement by accumulating the displacement; and

moving the boundary point by the accumulated displacement when the accumulated displacement is greater than a displacement tolerance and clearing the accumulated displacement.

3. (currently amended) [[A]] The method as in claim 1, wherein

said making reference to the first and second lengths to add or eliminate said boundary points comprises:

adding a new boundary point to said line segment when said second length is greater than a value obtained by multiplying the first length by a first factor exceeding 1; and

obtaining the first length of a new line segment divided by the new boundary point.

4. (currently amended) [[A]] The method as in claim 3, wherein the first factor is 4 or less.

5. (currently amended) [[A]] The method as in claim 1, wherein said making reference to the first and second lengths to add or eliminate said boundary points comprises:

eliminating one of the boundary points of the line segment when the second length is smaller than a value obtained by multiplying the first length by a second factor less than 1; and

obtaining the first length of a new line segment independent of the eliminated boundary point.

6. (currently amended) [[A]] The method as in claim 5, wherein the second factor is 0.25 or more.

7. (currently amended) [[A]] The method as in claim 3, wherein said making reference to the first and second lengths to add or eliminate the boundary point comprises:

eliminating one of the boundary points of the line segment when the second length is smaller than a value obtained by multiplying the first length by a second factor less than 1; and

obtaining the first length of a new line segment independent of the eliminated boundary point.

8. (currently amended) [[A]] The method as in claim 7, wherein an inverse of the first factor ~~accords to~~ is the second factor.

9. (currently amended) A simulator for simulating topography with a geometrical change of a material comprising:

a node displacement-calculating section calculating [[a]] displacement of [[a]] boundary points formed on a string formed on a surface of the material corresponding to the geometrical change in accordance with a process model;

a node moving section moving the boundary points by the displacement;

a length-calculating section obtaining lengths of a line segment between the boundary points before and after the boundary points [[is]] are moved; and

a regulating section adding or eliminating the boundary point by making reference to the lengths before and after the boundary points [[is]] are moved.

10. (currently amended) [[A]] The simulator as in claim 9, wherein;
said node moving section accumulates the displacement to obtain the accumulated displacement, moves the boundary point by the accumulated displacement when the accumulated displacement is greater than a displacement tolerance and clears the accumulated displacement.

11. (currently amended) [[A]] The simulator as in claim 9, wherein;
said regulating section adds a new boundary point to the line segment when the length after the boundary points [[is]] are moved is greater than a value obtained by

multiplying the length before the boundary points [[is]] are moved by a first factor which exceeds 1 and is 4 or less.

12. (currently amended) [[A]] The simulator as in claim 9, wherein;

said regulating section eliminates one of the boundary points of the line segment when the length after the boundary points [[is]] are moved is smaller than a value obtained by multiplying the length before the boundary points [[is]] are moved by a second factor which is 0.25 or more and less than 1.

13. (currently amended) [[A]] The simulator as in claim 11, wherein;

said regulating section eliminates one of the boundary points of the line segment when the length after the boundary points [[is]] are moved is smaller than a value obtained by multiplying the length before the boundary points [[is]] are moved by a second factor which is 0.25 or more and less than 1.

14. (currently amended) [[A]] The simulator as in claim 13, wherein a inverse of the first factor [[accords to]] is the second factor.

15. (currently amended) A program which is executed by a computer for simulating topography with a geometrical change of a material, the program comprising:

obtaining a first length of a line segment between boundary points generated on a surface of [[a]] the material;

calculating [[a]] displacement of the boundary points corresponding to the geometrical change according to a process model;

moving the boundary points by the displacement;

obtaining a second length of the line segment between the boundary points after the boundary points [[is]] are moved; and

making reference to the first and second lengths to add or eliminate the boundary points.

16. (currently amended) [[A]] The program as in claim 15, wherein said moving the boundary points by the displacement comprises: obtaining an accumulated displacement by accumulating the displacement; and moving the boundary points by the accumulated displacement when the accumulated displacement is greater than a displacement tolerance and clearing the accumulated displacement.

17. (currently amended) [[A]] The program as in claim 15, wherein said making reference to the first and second lengths to add or eliminate the boundary points comprises:

adding a new boundary point to the line segment when the second length is greater than a value obtained by multiplying the first length by a first factor which exceed 1 and is 4 or less; and

obtaining the first length of a new line segment divided by the new boundary point.

18. (currently amended) [[A]] The program as in claim 15, wherein said making reference to the first and second lengths to add or eliminate the boundary points comprises:

eliminating one of the boundary points of the line segment when the second length is smaller than a value obtained by multiplying the first length by a second factor which is 0.25 or more and less than 1; and

obtaining the first length of a new line segment independent of the eliminated boundary points.

19. (currently amended) [[A]] The program as in claim 17, wherein said making reference to the first and second lengths to add or eliminate the boundary points comprises:

eliminating one of the boundary points of the line segment when the second length is smaller than a value obtained by multiplying the first length by a second factor which is 0.25 or more and less than 1; and

obtaining the first length of a new line segment independent of the eliminated boundary points.

20. (currently amended) [[A]] The program as in claim 19, wherein an inverse of the first factor ~~accords to~~ is the second factor.

21. (new) A simulation method for simulating topography of a semiconductor surface having a geometrical change of a material, comprising:

generating two boundary points on a string formed on the surface of a material;
obtaining a first length of a line segment between the two boundary points;
calculating a displacement of two new boundary points according to a process model;

moving the two boundary points by the displacement to the two new boundary points;

obtaining a second length of a line segment between the two new boundary points after the two boundary points are moved;

comparing the second length to the first length multiplied by a factor to add a new boundary point or to eliminate an existing boundary point to simulate the geometrical change of the material.